

COS Park's Water Conservation Program



Program Overview

- The program was created in 2002 pursuant to Section 6-302(B) of the ADWR Third Management Plan, Phoenix AMA (TMP): Using a proactive approach at that time; a 15% reduction to the turf allotment was put in place to exceed ADWR regulations at all turf-related facilities managed by the City of Scottsdale.
- The program consists of the following measures:
 - Irrigation Technologies
 - Irrigation Advancements
 - Management Practices
 - Education
 - Tracking

Irrigation Technologies

- Irrigation Technologies:
 - Utilization of a Computerized Central Control System with Flow Sensors capable of automatic shut down upon irrigation line breakage or irrigation control valve malfunctions.
 - Central Irrigation Programming Control of all City owned parks and major street medians and rights of ways in order to ensure water usage goals are achieved.
 - Central Control System Controllers were not installed on medians where it was more cost effective to utilize Solar Powered Controllers.

New Irrigation Technology

- CIP funding: \$1.3 million FY18/19
- Replace outdated Motorola Control System, installed beginning 1994
- Purchase new Baseline Control System
- Install 187 controllers with COS Irrigation Team

New Irrigation Technology



Irrigation Advancements

- Irrigation Advancements:
 - Replacement of antiquated irrigation systems in older parks. Installation of C900 CL200 mainline pipe and Hunter ICV Series Irrigation Control Valves in order to reduce mainline breaks and malfunctioning valves.
 - Lake renovation projects at Indian School, Chaparral, McDonald, Eldorado, and Camelback Lakes. Converting thirty-year-old clay lined lakes with zero seepage plastic lined lakes.

Irrigation Advancements



Management Practices

- Management Practices:
 - Monthly monitoring of park water usage through Water Consumption Reports.
 - Medians Hi/Lo and zero reports through accounting application
 - Required monthly irrigation preventative maintenance by park field staff.
 - Water audits and maintenance performed at facilities having turf and/or landscape water usage issues by Irrigation staff.
 - Winter turf limited to Contractual obligation. Civic Center Complex, McCormick RR Park (.5 acre), Scottsdale Stadium, and Indian School Park. No other parks have winter turf.
 - Conversion of park turf areas to low-water use xeriscape planters. To date 323,843 square feet (7.43 acres) of turf have been converted to the lower water xeriscape areas.
 - Park Foreman have annual water conservation goals

Management Practices

McCORMICK-STILLMAN RAILROAD PARK WATER USE SUMMARY 2018

ARIZONA DEPARTMENT OF WATER RESOURCES ALLOTMENTS (Third Management Plan)
 4.9 acre feet of water per acre of turf per year (approx. 36.65 gal / sq. ft.)
 1.5 acre feet of water per acre of xeriscape per year (approx. 11.22 gal / sq. ft.)
 6.2 acre feet of water per acre of lake (evaporation + seepage) per year (approx. 46.38 gal / sq. ft.)
 1 acre = 43,560 square feet 1 acre foot of water = 325,851 gallons 1 cubic foot of water = 7.48 gals

	AREA IN ACRES	AREA IN SQ FEET	WATER ALLOTTED (A.F.)
TURF	11.70	509,675	49.14
XERISCP.	4.49	195,529	6.73
LAKE	0.00	0	0.00
TOTAL	16.19	705,204	55.88

	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTALS
MONTHLY GOAL (% of Annual)	1%	1%	4%	12%	13%	15%	15%	15%	13%	9%	1%	1%	100%
MONTHLY GOAL (ACRE FEET)	0.56	0.56	2.24	6.71	7.26	8.38	8.38	8.38	7.26	5.03	0.56	0.56	55.88
WATER AMOUNT USED (A.F.)	0.34												0.34
% OF MONTHLY GOAL	60.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
% OF YEARLY ALLOTMENT	0.60%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.60%
ACCUM MONTHLY GOAL (A.F.)	0.56	1.12	3.35	10.06	17.32	25.70	34.08	42.47	49.73	54.76	55.32	55.88	55.88
ACCUM WATER USED (A.F.)	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
% OF ACC. MONTHLY GOAL	60.47%	30.24%	10.08%	3.36%	1.95%	1.31%	0.99%	0.80%	0.68%	0.62%	0.61%	0.60%	0.60%
YTD ACCUM BALANCE (A.F.)	0.22	0.78	3.01	9.72	16.98	25.36	33.75	42.13	49.39	54.42	54.98	55.54	55.54
% OF ALLOTMENT USED YTD	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%
ALLOTMENT REMAINING (A.F.)	55.54	55.54	55.54	55.54	55.54	55.54	55.54	55.54	55.54	55.54	55.54	55.54	55.54

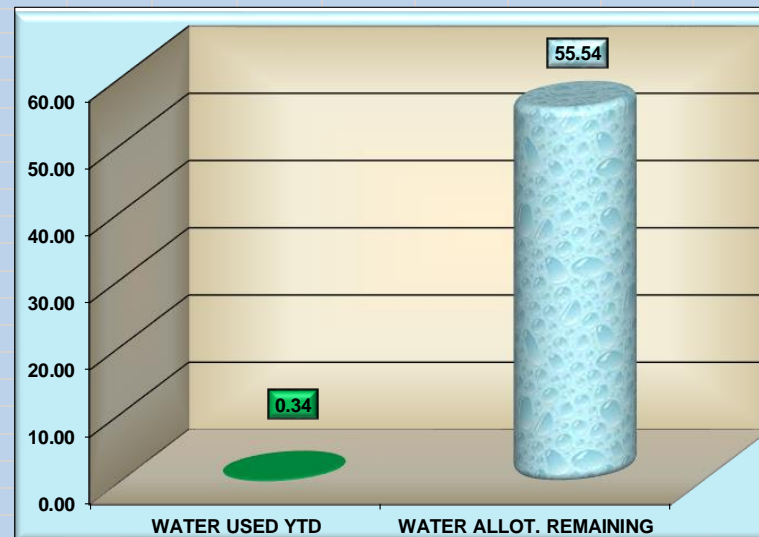
WATER USED CHART

WATER USED YTD	0.34	A.F.
WATER ALLOT. REMAINING	55.54	A.F.

ET/RAINFALL TOTALS			
Month	Historical ET	Actual ET	Rainfall Total
January	2.1	1.9	0.21
February	2.9		
March	5.6		
April	7.1		
May	8.7		
June	9.6		
July	9.6		
August	8.6		
September	7.0		
October	4.9		
November	2.7		
December	2.3		

Calculations in inches

Rye growing season is October 16th thru March 31st.
 Bermuda growing season is April 1st thru October 15th.



Management Practices

CITY OF SCOTTSDALE TURF FACILITIES 2021 BANK REPORT												
SITE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Agua Linda	0.13	0.21	0.47	1.30	1.69	1.76	2.63	3.71				
Apache	0.17	0.37	0.96	2.99	3.22	3.15	3.24	4.73				
Aztec	0.17	0.05	0.71	2.13	2.50	2.57	2.56	4.00				
Cactus ADWR	-0.21	-0.18	1.06	4.51	6.21	7.65	7.72	12.73				
Camelback Park ADWR (SRP Water)	-0.49	-0.75	-2.94	-3.38	-6.10	-13.37	-6.02	3.95				
Civic Center Mall	0.58	0.66	0.62	0.91	1.65	1.81	2.42	3.91				
Chaparral ADWR (SRP Water)	-0.11	-3.02	-15.71	-6.87	-8.07	-21.62	-5.57	23.16				
Chaparral Extension (SRP Water)	-0.46	-0.47	0.68	3.80	2.68	-1.57	3.28	10.06				
Chesnutt	0.16	0.33	0.76	2.05	3.20	3.11	4.07	4.61				
Cholla	-0.07	-0.06	0.85	2.81	4.40	6.40	6.91	10.13				
Comanche	0.08	-0.23	-0.03	2.47	3.45	4.34	7.80	10.19				
DC Ranch	-0.32	-1.09	-3.17	-1.28	-5.33	-8.68	-6.54	-4.37				
Doc Cavalliere	0.76	1.52	2.28	3.21	4.10	4.78	6.03	7.26				
Eldo ADWR (SRP Water)	1.11	1.57	4.33	11.98	15.05	13.65	21.07	33.31				
Florence Ely Nelson	0.05	0.10	0.16	0.38	0.55	0.62	0.90	1.23				
Grayhawk	-0.06	0.02	0.86	2.94	3.55	4.12	4.58	7.35				
Horizon	-0.09	-0.26	1.04	3.35	4.20	3.94	2.99	5.07				
Ironwood	0.04	0.07	0.22	0.60	0.81	1.10	1.42	1.89				
I.S.P. ADWR (SRP Water)	4.81	3.70	2.79	9.24	18.43	24.13	38.94	51.50				
Lafayette	-0.03	-0.05	-0.02	0.20	0.20	0.32	0.47	0.67				
McCormick ADWR	0.12	-1.34	-2.13	-1.22	-0.94	-0.11	3.75	7.23				
Mescal	0.15	0.28	1.25	3.56	5.45	7.12	8.74	11.79				
MMRP (CAP Water)	-0.19	-0.56	-0.11	-0.57	-1.99	-0.41	2.67	7.64				
Mt. View	0.27	0.45	1.25	3.72	6.54	8.36	11.54	15.45				
North Senior Center	-0.91	-1.77	-2.12	-1.48	-0.36	1.24	2.72	4.34				
Northsight	0.17	0.32	1.27	4.06	6.46	8.77	11.10	15.66				
Osborn	-0.08	-0.08	0.30	1.43	1.61	1.73	1.82	2.24				
Paiute Park	0.26	0.43	-0.06	2.06	3.19	4.52	5.34	5.59				
Papago	0.03	0.05	0.11	0.15	0.11	0.01	0.05	0.19				
Pima	0.21	0.44	1.20	3.39	6.13	0.00	9.92	7.98				
Paiute Neighborhood Center (1/2 SRP Water)	0.06	0.18	-0.17	0.65	1.57	1.72	2.81	3.79				
Rio Montana	-0.46	-0.49	-0.27	0.27	0.32	0.47	0.74	1.41				
Rotary (Effluent)	0.14	0.30	0.58	2.00	2.97	2.29	2.47	3.00				
Sports Complex ADWR (Effluent)	0.83	0.52	2.89	0.33	-5.75	-2.91	9.63	24.63				
Shoshone	0.07	0.14	0.29	0.69	1.07	1.40	2.39	2.61				
Sonoran Hills	0.27	0.53	1.35	3.07	4.12	5.21	3.95	4.89				
Scottsdale Ranch Park ADWR	-0.61	-1.13	0.36	3.01	5.16	7.86	8.51	14.43				
Stadium	0.40	-0.78	-2.58	-4.10	-6.07	-6.03	-3.26	0.10				
Stonegate	-0.02	-0.01	0.08	0.37	0.67	1.01	1.32	1.76				
Thompson Peak	-0.36	-1.00	-1.88	-0.87	0.54	1.06	3.58	7.46				
Thunderbird	0.02	0.04	1.30	3.67	4.46	5.85	6.38	8.71				
Vista ADWR (SRP Water)	1.25	2.04	6.69	13.32	11.48	7.69	13.74	19.87				
West World (CAP Water)	0.65	1.00	3.75	5.51	4.21	6.75	10.61	6.30				
Wilshire	0.05	0.10	0.22	0.70	1.24	1.45	1.94	2.33				
Yavapai Ball Fields	0.28	0.55	1.51	3.46	2.25	0.99	2.33	3.82				
Zuni	0.18	0.15	-0.06	0.35	0.35	0.22	1.18	-0.47				
TOTAL POTABLE (ACRE FEET)	2.08	-0.57	11.83	60.70	81.70	95.73	143.26	198.83				
TOTAL SRP (ACRE FEET)	6.14	3.16	-4.25	28.42	34.26	9.77	66.85	143.75				
TOTAL EFFLUENT (ACRE FEET)	0.97	0.82	3.47	2.33	-2.78	-0.62	12.10	27.63				
TOTAL CAP (ACRE FEET)	-0.19	-0.56	-0.11	-0.57	-1.99	-0.41	2.67	7.64				
TOTALS (ACRE FEET)	9.00	2.85	10.94	90.87	111.18	104.47	224.87	377.84				
ESTIMATED VALUE OF SAVED WATER ABOVE THE INDIVIDUAL SITE ALLOTMENTS	\$3,385	\$-0,408	\$16,673	\$79,774	\$103,388	\$122,007	\$193,822	\$279,339				

Management Practices



NorthStar Report

Median Meter Hi/Low Report: Downtown

*Accounts that have 25% or MORE usage than same month/previous year. Excludes previous year 0 use and no previous year history.

Account #	Occ #	Name	Service Address	Meter #	Current Read Date	Current Read	Current Usage	Previous Mnth Usage	Usage Same Mnth Prev Year
20045993	1	COS DOWNTOWN LS	4202 N BROWN AVE IRRG	0012017940	3/1/2017	1329	1,940	2,690	10
20069912	1	COS ONE CIVIC CENTR PARKING LS	4016 N 75TH ST IRRG	0012062049	2/1/2017	14223	47,020	95,210	990
20118372	0	COS DOWNTOWN LS	7203 E CAMELBACK RD IRRG	0012646758	3/1/2017	3431	9,120	9,830	620
20039325	1	COS ONE CIVIC CTR LS	7447 E INDIAN SCHOOL RD	0016139996	2/1/2017	611884	20,896	18,248	4,800
20039389	1	COS CIVIC CENTER PARKING LS	3739 N DRINKWATER BLVD IRRG	0016140187	2/1/2017	1104357	89,171	30,114	37,700
20119244	0	COS MUSEUM OF THE WEST	3830 N MARSHALL WAY IRRG	0014270146	2/1/2017	83011	10,430	16,510	6,140
20063185	1	COS DOWNTOWN LS	7072 E 5TH AVE IRRG	0015124169	2/1/2017	82822471	35,352	36,845	26,132
20040010	6	COS URBAN DESIGN STUDIO	7506 E INDIAN SCHOOL RD	0016121684	3/1/2017	311624	31,162	9,691	23,840
20113148	0	COS DOWNTOWN LS	3840 N MARSHALL WAY IRRG	0015133918	2/1/2017	6409866	2,937	3,335	2,336
20062943	1	COS DOWNTOWN LS	4226 N MARSHALL WAY IRRG	0015124158	2/1/2017	23362523	8,437	10,825	6,745

Education

- Education:
 - Certification Program developed for Park Staff requiring annual training in Water Management and Irrigation Maintenance. More than 1600 hours have been dedicated to training City of Scottsdale staff on proper irrigation and water management skills
 - Partnership with Ewing Irrigation- they deliver free irrigation training courses to COS staff in exchange for classroom booking

Education

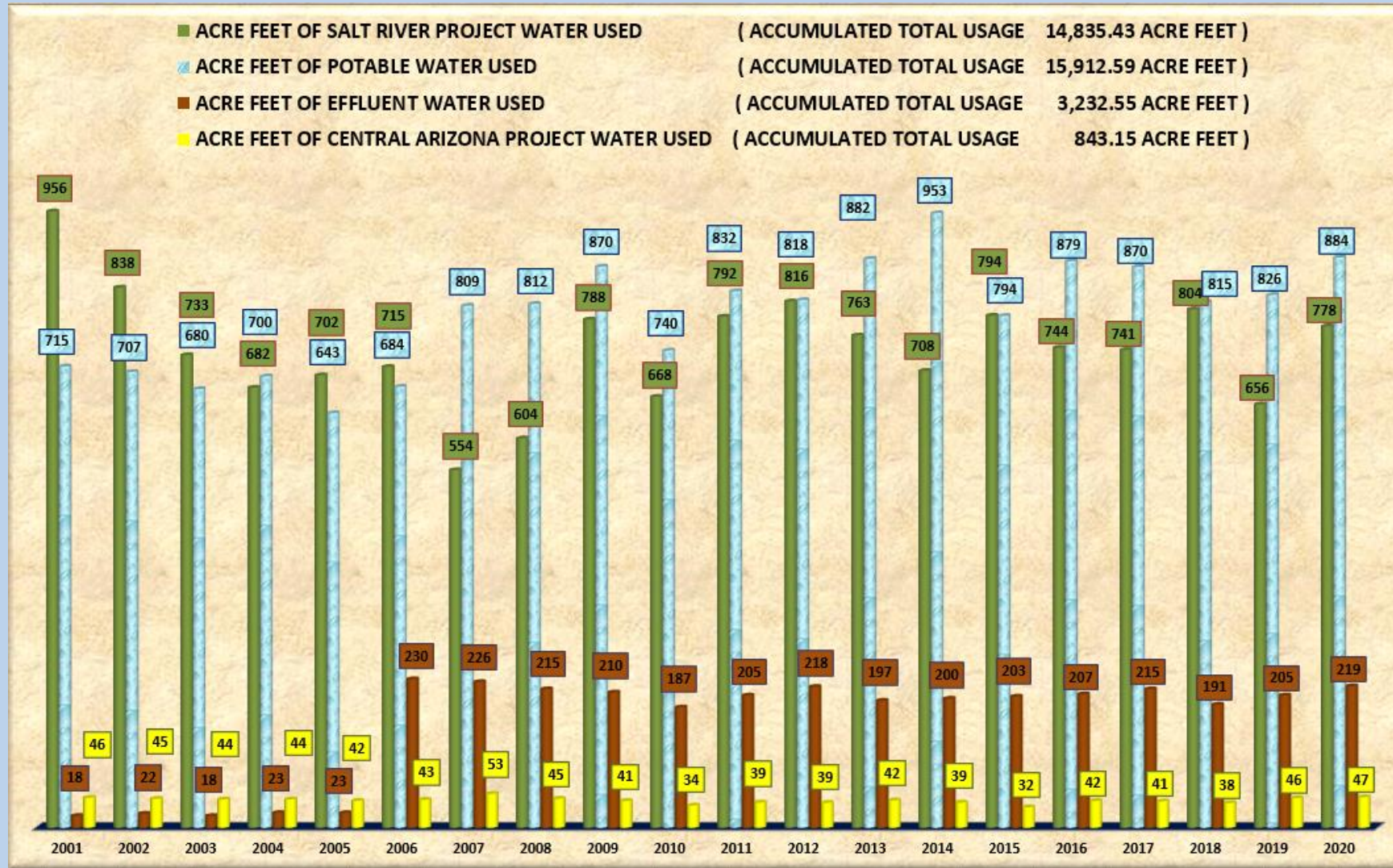
BASIC TRAINING TOPICS-

- Irrigation System Responsibilities/
System Identification
- Water Conservation
- Irrigation Sprinkler Head Maintenance
- Irrigation Lateral Pipe Repair
- Irrigation Valve/Box Maintenance

ADVANCED TRAINING TOPICS-

- Central Control System Operations
- Irrigation Control Valve
Repair/Replacement
- C900 Mainline Repair/Replacement

Tracking



Tracking



Tracking

Cactus Park

PARK INFORMATION

Cactus Park
7202 E. Cactus Road
Scottsdale, AZ 85260
P: 480-312-7665

Park Information

City of Scottsdale - Cactus Park
7202 E. Cactus Road
Scottsdale, AZ 85260
P: 480-312-7665

Katie Bitz
Community Services Supervisor
P: 480-312-8433
KBitz@ScottsdaleAZ.gov

Map
Cactus Park Map (PDF)

Park Hours
Sunrise - 10:30 p.m.
Pool & Fitness Center Hours (PDF)

Irrigation Information
Park Irrigation Usage Graph

CACTUS PARK

ARIZONA DEPARTMENT OF WATER RESOURCES WATER ALLOTMENT vs. THE CITY OF SCOTTSDALE IRRIGATION USE
YEARLY HISTORICAL CHART
Allotments and Usage shown in Acre Feet
1 Acre Foot = 325,853 gallons

Year	Usage (Acre Feet)	Allotment (Acre Feet)
2000	45	50
2001	48	50
2002	50	50
2003	38	50
2004	38	50
2005	38	50
2006	45	50
2007	48	50
2008	45	50
2009	45	50
2010	42	50
2011	45	50
2012	45	50
2013	42	50
2014	32	50
2015	42	50
2016	45	50
2017	50	50
2018	45	50
2019	35	50
2020	45	50

AZ water shortage declaration

Scottsdale City Manager Jim Thompson officially declared “Stage 1” of the city’s Drought Management Plan on August 17th as a direct result of the Colorado River Tier 1 shortage declared by the Bureau of Reclamation. The Colorado River shortage will take effect January 1st, 2022, with Scottsdale’s “Stage 1” taking effect immediately. AZ will lose 320,000 acre-feet of their Colorado River entitlement

Drought Management Toolbox

TABLE 7 - MUNICIPAL DEMAND SIDE MANAGEMENT OPTION MENU

		Response Options	Stage Zero	Stage 1	Stage 2	Stage 3	Stage 4
Municipal	A	Reduce/eliminate irrigation for municipal landscaping		Reduce	Limit	limit	No turf irrigation
	B	Limit/Prohibit over-seeding for a winter lawn		Limit	Prohibit	Prohibit	Prohibit
	C	Educate municipal staff on indoor/outdoor water-saving techniques	Initiate	Expand	Continue	Continue	Continue
	D	Limit/prohibit washing of municipal fleet vehicles		Reduce	Limit	Prohibit	Prohibit
	E	Limit hydrant flushing		Limit	Limit	N/A (See G)	N/A (See G)
	F	Limit use of water for fire training		Limit	Limit	N/A (See G)	N/A (See G)
	G	Eliminate all fire hydrant uses except those required for public safety				Initiate	Continue
	H	Reduce / Turn off municipally owned ornamental fountains		Initiate	Expand	Continue	Continue
	I	Conduct indoor water audits	Initiate	Continue	Continue	Continue	Continue
	J	Public water shortage education campaign	Initiate	Expand	Intensify	Intensify	Intensify
	K	Close water hauling station to all non-Scottsdale residents and businesses		Initiate	Continue	Continue	Continue